

**OPTICAL AMPLIFICATION OF MOLECULAR INTERACTIONS
USING LIQUID CRYSTALS**

ABSTRACT OF THE DISCLOSURE

5 Interactions between molecules which are components of self-assembled monolayers and other molecules can be amplified and transduced into an optical signal through the use of a mesogenic layer. The invention provides a device and methods for detecting analytes. The device comprises a substrate onto which a self-assembled monolayer is attached and a mesogenic layer which is anchored by the
10 self-assembled monolayer. The mesogenic layer undergoes a change in conformation in response to the molecular interaction.

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